

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: n-Hexane 95%

SYNONYMS: normal Hexane, Hexyl Hydride

PRODUCT CODES: 1916-5

MANUFACTURER: Birch Biotech, LLC

ADDRESS: 701 Hemlock Rd, Morgantown, PA 19543

CHEMTREC PHONE: 800-424-9300

SUPPORT: 610-524-5810

FAX: 610-901-3046

PRODUCT USE: HPLC, GC, ACS experiments, Spectrophotometry

PREPARED BY: CB

SECTION 1 NOTES:

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION: Flammable liquid Category 2, Aspiration Hazard Category 1; Eye damage/irritation Category 2; Skin damage/irritation Category 2; Specific Target Organ Toxicity - single exposure (central nervous system) Category 3; Reproductive toxicity, Category 2; Chronic aquatic toxicity, Category 2



Signal Word: Danger!

Hazard Phrases	
H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Phrases	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P270	Do not eat, drink or smoke when using this product.
P281	Use personal protective equipment as required.
P264	Wash hands thoroughly after handling.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.

P305-P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P301+P310+P331	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Do NOT induce vomiting.
P403+P233	Store in a well- ventilated place. Keep container tightly closed.
P405	Store locked up.
P273	Avoid release to the environment.

SECTION 2 NOTES:

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT:</u>	<u>CAS NO.</u>	<u>% VOL</u>
n-Hexane	110-54-3	95-100
Water	7732-18-5	0-5

SECTION 3 NOTES:

SECTION 4: FIRST AID MEASURES

EYES: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if irritation persists.

SKIN: In case of contact, flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If skin irritation occurs: Get medical attention/advice.

INGESTION: Call medical doctor or poison control center immediately. Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

SECTION 4 NOTES:

Note to Physician: Treat symptomatically

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABILITY OF THE PRODUCT: OSHA/NFPA Class IB Flammable Liquid

FLASH POINT: -22°C (-7°F) - TAG

AUTOIGNITION TEMPERATURE: 225.0°C (437°F)

NFPA HAZARD CLASSIFICATION

HEALTH:2 FLAMMABILITY: 3 REACTIVITY: 0
OTHER:

HMS HAZARD CLASSIFICATION

HEALTH:2 FLAMMABILITY: 3 REACTIVITY: 0
PROTECTION:

EXTINGUISHING MEDIA: Small fire - use DRY chemical powder, CO2, water spray or alcohol resistant foam. Large fire - use alcohol resistant foam, water spray or fog. Cool all affected containers with flooding quantities of water.

NOT SUITABLE: Do not use water jet.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus and protective clothing to protect contact with skin and eyes. Keep unopened containers cool by spraying with water. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide

UNUSUAL FIRE AND EXPLOSION HAZARDS: May produce a floating fire hazard. Vapors may travel to source of ignition and flash back. Vapors may settle on low or confined spaces.

SECTION 5 NOTES: Static ignition hazard can result from handling and use. Keep away from sparking tools.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:

Small spill and leak: Ensure adequate ventilation. Remove all sources of ignition. Dilute with water and mop, or absorb with an inert dry material and place in appropriate waste disposal container.

Large spill and leak: Keep away from heat and ignition sources. Stop leak if without risk. Absorb with DRY earth, sand, or other non-combustible material. Avoid skin and eye contact. Prevent entry into sewers, basements or confined areas; dike if needed. Additional protective equipment such as full-face respirator, full body suit and boots may be required.

SECTION 6 NOTES:

SECTION 7: HANDLING AND STORAGE

HANDLING: Do not get in eyes or on skin. Do not breathe vapor or mist. If potential for splashing exists, protect skin by using sleeve protectors, aprons and face-shield. Immediately remove contaminated clothing. Wash thoroughly after handling.

STORAGE: Keep away from sources of ignition. Keep containers closed and out of reach of children. Ground all equipment containing material. Containers which are opened must be resealed and kept upright to prevent leakage. Store at room temperature.

SECTION 7 NOTES:

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

ENGINEERING CONTROLS: General mechanical ventilation or laboratory fume hood. Ensure that eyewash stations and quick drench showers are close to the workstation.

PERSONAL PROTECTIVE MEASURES: Wear gloves, lab coat, eye protection and impervious footwear. Approved/certified respirator if airborne concentrations exceed exposure limits

ENVIRONMENTAL EXPOSURE CONTROLS: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

WORK HYGIENIC PRACTICES: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

EXPOSURE GUIDELINES:

OSHA Permissible Exposure Limits (PELs):

Reagent	CAS#	OSHA PEL TWA
n-Hexane	110-54-3	500 ppm (1800 mg/m ³)

ACGIH Threshold Limit values (TLVs):

Reagent	CAS#	ACGIH PEL TWA	COMMENTS
n-Hexane	110-54-3	50 ppm (180 mg/m ³)	Skin-potential significant contribution to overall exposure via cutaneous route.

SECTION 8 NOTES:**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****APPEARANCE:** Clear, colorless**ODOR:** Characteristic gasoline-like**PHYSICAL STATE:** liquid**pH AS SUPPLIED:** Not available**BOILING POINT:** 69°C (156°F)**MELTING POINT/FREEZING POINT:** -94°C (-137°F)**VAPOR PRESSURE (mmHg):** 124 mmHg @ 20°C**VAPOR DENSITY (AIR = 1):** 3**SPECIFIC GRAVITY:** 0.7**EVAPORATION RATE:** 2.8 (Butyl acetate=1)**SOLUBILITY IN WATER:** Insoluble in water. Soluble in diethyl ether, acetone, alcohol.**MOLECULAR WEIGHT:** 86.2 g/mol**VISCOSITY:** Not established**SECTION 9 NOTES:****SECTION 10: STABILITY AND REACTIVITY****STABILITY:** Product is stable under normal conditions of use.**CONDITIONS TO AVOID (STABILITY):** Avoid heat, sparks, flames, and all other sources of ignition.**INCOMPATIBILITY (MATERIAL TO AVOID):** Strong oxidizing agents**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Vapors may form explosive mixture with air. Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: oxides of carbon.**HAZARDOUS POLYMERIZATION:** No hazardous polymerization**CONDITIONS TO AVOID:** Heat, open flame**SECTION 10 NOTES:****SECTION 11: TOXICOLOGICAL INFORMATION****ACUTE TOXICITY:**

Oral LD50: Rat LD50 25g/kg

Inhalation LC50: Rat LC50 48000 ppm/ 4hr

Mouse LC50 150g/m³ 2hr

Dermal LD50: Rabbit 3,000 mg/kg

Eye corrosion/irritation: Draize test - Rabbit 10mg /24hr - Mild

Skin corrosion/irritation: Draize test - Rabbit 500 µl /24hr - Mild

Carcinogenicity:

n-Heptane: NIOSH: Not classifiable as a human carcinogen ACGIH: Not classifiable as a human carcinogen

NTP: Not classifiable as a human carcinogen IARC: Not classifiable as a human carcinogen

Potential health effects

Inhalation: Nose, throat and lung irritation with coughing wheezing and shortness of breath.

Ingestion: Harmful if swallowed and aspirated.

Skin: Harmful if absorbed through skin. Causes skin irritation and burns.

Eyes: May cause eye burns and irritation.

Signs and Symptoms of Exposure

Headache, dizziness, central nervous system depression, lack of coordination and loss of consciousness. Repeated skin exposure can cause rash, dryness and redness.

ROUTES OF ENTRY: Skin/eye contact, inhalation, and ingestion.

TARGET ORGANS: Upper respiratory tract, skin, central nervous system

SECTION 11 NOTES:

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL TOXICITY:

Toxicity to fish: LC50 Pimephales promelas (fathead minnow) 2.5 mg/l - 96 hr

Toxicity to daphnia and

other aquatic invertebrates: EC50 - Daphnia magna (water flea) - 3/878 mg/l - 48 hr

Toxicity to algae: EC50 - Chlorella vulgaris (Fresh water algae) - 12,840 mg/l - 3hr

EC50 - SKELETOMA - 0.30 mg/l - 8hr

PERSISTENCE AND DEGRADABILITY:

BIOACCUMULATIVE POTENTIAL: Expected to biodegrade but not bioconcentrate

MOBILITY IN SOIL: No data available

PBT and vPvB ASSESSMENT: Not required.

SECTION 12 NOTES:

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Unused product: dispose as a regulated hazardous waste. Burn in a chemical incinerator equipped with an afterburner and scrubber. Take extra care in lighting as this material is highly flammable. Spent product or spill clean up-follow all provincial, local, state, and federal regulations.

SECTION 13 NOTES:

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION:

UN No. UN1208

Proper Shipping Name: HEXANES

Hazard Class:3

Packing Group: II

Label Statement: Flammable liquid

IMDG

UN No. UN1208

Proper Shipping Name: HEXANES

Hazard Class:3

Packing Group: II

EMS-No: F-E, S-D

Marine pollutant: Yes

IATA

UN No. UN1208

Proper Shipping Name: HEXANES

Hazard Class:3

Packing Group: II

SECTION 15: REGULATORY INFORMATION

United States

HCS Classification: Flammable liquid, Target organ effects, Irritant

U.S. Federal regulations:**TSCA 8(a) IUR:** Listed on inventory.**United States inventory (TSCA 8b):** Listed on inventory.**SARA 302/304/311/312 extremely hazardous substances:** No products were found.**SARA 302/304 emergency planning and notification:** No products were found.**SARA 302/304/311/312 hazardous chemicals:** No products were found.**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:**

Acute Health Hazard; Chronic Health Hazard, Fire Hazard

SARA 313 Form R - Reporting: The following components are subject to reporting levels established by SARA Title III, Section 313: n-Hexane CAS# 110-54-3, 93+%**DEA List I & II Chemicals****(Precursor Chemicals):** Not listed**CERCLA:** n-Hexane CAS#110-54-3 5000 lbs final RQ, 2270 kg final RQ**RTK STATES:** n-Hexane CAS#110-54-3 PA, NJ, RI, NY, MN, MA, CA**California Prop. 65:****WARNING:** This product can expose you to chemicals including n-Hexane, which is known to the State of California to cause reproductive toxicity. For more information go to www.P65Warnings.ca.gov.**CANADA****WHMIS (Canada):**

Class D-2B: Toxic material causing other toxic effects

Class B-2: Flammable liquid

Canadian lists:**CEPA Toxic substances:** The following components are listed: None**Canadian ARET:** None of the components are listed.**Canadian NPRI:** The following components are listed: None**CEPA DSL / CEPA NDSL:** CAS#110-54-3 This product is listed

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

International regulations**International lists: (EINECS):** This product is on the European Inventory of Existing Commercial Chemical Substances.

SECTION 16: OTHER INFORMATION

National Fire Protection Association (NFPA)

**DISCLAIMER:** This Safety Data Sheet has been prepared in accordance with the Globally Harmonized System for the Classification and Labelling of Chemicals (GHS). To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries makes any warranty of merchantability or any other warranty, expressed or implied, which respect to such information, and we assume no liability resulting from its use. In no event shall Birch Biotech, LLC be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages resulting from use of or reliance upon this information.

PREPARATION INFORMATION: Prepared 04/06/2018 Rev. 1